

THREE NEW SPECIES OF PICRAMNIA (SIMAROUBACEAE)
FROM CENTRAL AMERICA

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DURING THE MID-1940's, Dr. Arthur Cronquist published a series of useful papers on the systematics of the American species of the family Simaroubaceae (Cronquist 1944a, b, c, d, 1945). All indigenous genera, save one, were treated in detail. Unfortunately, that genus not treated, *Picramnia* Sw., remains the most poorly known of the family. One must still agree with Macbride (1949, p. 695) that "No Peruvian genus is more in need of general revision than this; in many cases species have been described from partial material or incompletely if not inaccurately . . ." Pending such a revision, the relationships of the three new species described below remain obscure.

Picramnia allenii D. M. Porter, sp. nov.

Picramnia quaternaria primo ad aspectu maxime simile, sed floribus trimeris. FIGURES 1 and 2.

TYPE. Panama. COCLÉ: Mountains beyond La Pintada, 400–600 m. Small tree 4 m. 16 February 1935, A. A. Hunter & P. H. Allen 538 (MO, holotype; F, GH, NY, US, isotypes).

Shrubs or small trees, 1–7 m. high; branchlets yellowish appressed-tomentulose, becoming glabrate. Leaves alternate, pinnate, 18–24.5 cm. long, petiole and rachis yellowish appressed-tomentulose, becoming almost glabrate; leaflets 12–20, mainly an even number, alternate to the lowermost subopposite or opposite, ovate to elliptic, narrowly acuminate apically, rounded and markedly inequilateral basally, the margins entire, revolute, chartaceous, yellowish appressed-tomentulose above and beneath on the main vein and marginally, the blade sparingly pubescent, 22–75 mm. long and 8–23 mm. wide, the terminal leaflets largest, the lowermost smallest and reflexed, the petiolules yellowish appressed-tomentulose, 2–3 mm. long. Staminate racemes subterminal, becoming axillary, aggregated to solitary, simple or rarely once branched, densely flowered, yellowish appressed-tomentulose, to 38 cm. long. Staminate flowers 3-merous, numerous, 1–several aggregated in clusters, white or greenish, the pedicels spreading, yellowish appressed-tomentulose, to 3 mm. long; sepals 3, ovate, apiculate, appressed-pubescent, ca. 1.5 mm. long and 1 mm. wide; petals 3, narrowly elliptic, apiculate, glabrous to rarely sparingly pubescent, longer than the sepals, ca. 1.5 mm. long; stamens 3, exserted,



FIGURES 1, 2. *Picramnia allenii* D. M. Porter: 1, photograph of holotype specimen; 2, close-up of staminate raceme.

the filaments filiform, glabrous, ca. 2.5 mm. long, the anthers basifixed, 2-lobed, the lobes separated; ovary absent. Carpellate racemes solitary or in pairs, yellowish appressed-tomentulose, to 28 cm. long. Carpellate flowers 3-merous, the pedicels appressed-tomentulose, articulated basally, 1–1.5 cm. long in fruit; sepals 3, broadly triangular, appressed-pubescent, persistent and spreading in fruit, ca. 2 mm. long and 1 mm. wide; style bilobed, the lobes recurved and persisting in fruit. Berries red or orange, ellipsoid to obovoid, appressed-pubescent to glabrate, to 1.5 cm. long; seeds 1.

This species is named for the late Paul Hamilton Allen (1911–1963), a graduate of the Missouri Botanical Garden and long-time collector of the Central American flora. It appears to be a rather common shrub or small tree in forests and cut-over areas at altitudes from 500 to 1500 meters from the Panamanian provinces of Coclé and Chiriquí northwestward to central Costa Rica. Only the Costa Rican collections examined are

listed below, as Panamanian exsiccatae will be cited in the forthcoming treatment of the Simaroubaceae for the *Flora of Panama*.

Costa Rica. ALAJUELA: Between Alajuela and Volcán Poás, *Greenman & Greenman 5403* (MO). CARTAGO: NW slope of Cerro Carpintera above La Unión de Tres Ríos, 1320–1500 m., *Dodge & Thomas 4841* (MO). SAN JOSÉ: 5 mi. ESE of Desamparados, *Croat 1064* (MO); Escazu, ca. 1300 m., *Solís R. 304* (MO); San José, 1100 m., *Smith 6464* (MO), *Tonduz 10140* (MO); San Pedro, *Greenman & Greenman 5281* (MO), fence tree bordering coffee plantation, vicinity of San Pedro, *Godfrey 67211* (MO).

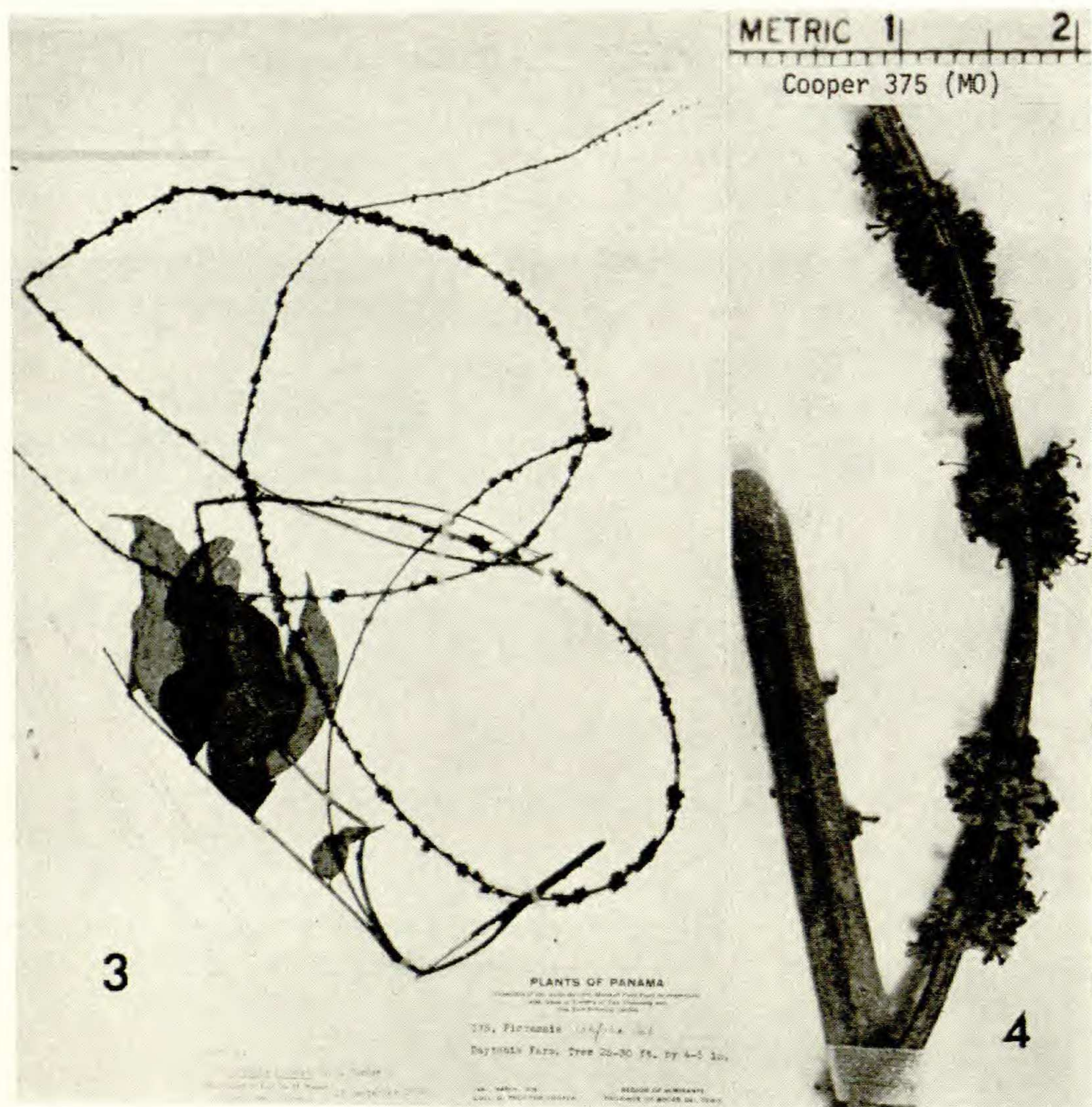
Picramnia allenii is similar vegetatively to *P. quaternaria* Donn. Sm., a species of southern Mexico, Guatemala, Honduras, El Salvador, and Nicaragua. Almost all collections examined had been labeled as *P. quaternaria*. However, the flowers of *P. allenii* are 3-merous, while those of *P. quaternaria* are 4-merous, and the two are allopatric in distribution. Common names reported from Costa Rica are *caregre* (fide *Solís R. 304*) and *caregue* (fide *Smith 6464* and *Tonduz 10140*).

***Picramnia cooperi* D. M. Porter, sp. nov.**

Picramnia latifolia primo adspectu maxime simile, sed floribus trimeris. FIGURES 3 and 4.

TYPE: Panama. BOCAS DEL TORO: Region of Almirante. Daytonia Farm. Tree 25–30 ft. by 4–5 in. January–March 1928, *G. Proctor Cooper 375* (GH, holotype; F, NY, US, isotypes).

Shrubs or small trees, 2–10 m. high; branchlets yellowish appressed-pubescent, becoming glabrate. Leaves alternate, pinnate, ca. 25 cm. long; petiole and the rachis sparingly appressed-pubescent, becoming glabrate; leaflets 7–8, alternate to subopposite, ovate to elliptic or oblong, acute to obtuse and abruptly acuminate apically, rarely retuse, acute to obtuse and inequilateral basally, the margins entire, revolute, chartaceous, the blade sparingly appressed-pubescent, especially basally, on the veins beneath, and marginally, becoming glabrate, 5–12 cm. long and 21–53 mm. wide, the terminal and subterminal leaflets largest, the petiolules pubescent, ca. 3 mm. long. Staminate racemes axillary, aggregated or solitary, simple, densely flowered, yellowish appressed-pubescent, 68–96 cm. long. Staminate flowers 3-merous, numerous, several together in clusters, cream-colored, the pedicels sparingly yellowish appressed-pubescent, to ca. 1 mm. long; sepals 3, broadly ovate, yellowish appressed-pubescent, 2 mm. long and 1.5 mm. wide; petals 3, oblanceolate, apiculate, hooded, glabrous, longer than the sepals, ca. 2 mm. long; stamens 3, exerted, the filaments subulate, glabrous, 3 mm. long, the anthers basifixed, 2-lobed, the lobes separated; disc 3-lobed, each lobe in turn bilobed and extending between 2 stamens; ovary conical, glabrous, the style and stigma absent. Carpelate racemes, flowers, and fruits unknown.



FIGURES 3, 4. *Picramnia cooperi* D. M. Porter: 3, photograph of holotype specimen; 4, close-up of staminate raceme.

This species is named for George Proctor Cooper of the United Fruit Company, who collected plants in Panama for the Yale School of Forestry in the late 1920's. It is known only from the province of Bocas del Toro.

Additional collection examined: **Panama.** BOCAS DEL TORO: Vicinity of Chiriquí Lagoon, *von Wedel 1226*, in part (MO).

Picramnia cooperi apparently is a shrub or small tree of the rain forest. It superficially resembles *P. latifolia* Tul., which also occurs in Bocas del Toro, but it is easily distinguished from the latter by its pubescence, 3-merous flowers, and much longer inflorescences. *Von Wedel 1226* is a mixed collection of *P. cooperi* and *P. latifolia*. The branch with the leaves is *P. latifolia*, while the unattached partial inflorescence is *P. cooperi*. The trichomes of the appressed-pubescent inflorescence and those of the appressed-puberulent branch and leaves are quite different from one another.



FIGURES 5-7. *Picramnia dwyeri* D. M. Porter: 5, photograph of holotype specimen; 6, close-up of carpellate raceme; 7, close-up of immature berry.

Picramnia dwyeri D. M. Porter, sp. nov.

Picramnia antidesma primo adpectu maxime simile, sed foliolis pubescentibus et floribus tetrameris. FIGURES 5-7.

TYPE. Panama. PANAMA: Between Cañasas and Sabalo, elev. ca. 100 m. Shrub; flowers green; fruits red. 26 September 1967, J. A. Duke 14456 (MO, holotype).

Shrubs or small trees, ca. 2 m. high; branchlets densely yellowish-tomentose, finally becoming glabrate. Leaves alternate, pinnate, to 24 cm. long; petiole and the rachis densely yellowish-tomentose; leaflets ca. 8-13 (-17), alternate, the lowermost subopposite, ovate to obovate or oblanceolate, the terminals elliptic, abruptly short-acuminate apically, markedly inequilateral basally, the margins entire, revolute, chartaceous, the midrib indented above and prominent beneath, appressed yellowish-pubescent on the margin and on the midrib beneath, minutely puberulent

in the sulcus above, the blade sparingly pubescent beneath, to 5 (8.8) cm. long and 2 (4.5) cm. wide, the terminal leaflets largest, the lowermost smallest and reflexed, the petiolules densely yellowish-tomentose, 1–2 mm. long. Staminate racemes terminal, aggregated, simple, yellowish appressed-pubescent, to 20 cm. long. Staminate flowers 4-merous, 1–2 together, green, the pedicels spreading, sparingly pubescent, 1–1.5 mm. long; sepals 4, connate basally, narrowly ovate, apiculate, yellowish appressed-pubescent, ca. 1.5 mm. long; petals 4, narrowly lanceolate, glabrous, a little longer than the sepals, 2 mm. long; stamens 4, exserted, the filaments subulate, glabrous, adnate basally to the petals, ca. 3 mm. long, the anthers basifixed, 2-lobed, the lobes separated; ovary rudimentary, tomentose, the style and stigma absent. Carpellate racemes terminal, solitary, simple, densely appressed yellowish-pubescent, to 32 cm. long in fruit. Carpellate flowers 4-merous, in clusters of 3 that alternate on the inflorescence, usually only 1 of the 3 forming a fruit, the pedicels thickened apically, appressed yellowish-pubescent, articulated basally, 3–8 mm. long in fruit; sepals 4, triangular, acute, appressed yellowish-pubescent, persistent and spreading in fruit; petals 4, narrowly triangular, shorter than the sepals; style bilobed, the lobes recurved and persisting in fruit. Berries green maturing red, obovoid or rarely ellipsoid, appressed-pubescent, 2-loculed, 7–15 mm. long; seeds 1–2.

This species is named for John Duncan Dwyer, Professor of Biology at St. Louis University, and efficient collector and determiner of Panamanian plants. It is an understory shrub or small tree of lowland monsoon forests, known only from Panama.

Additional collections examined. **Panama.** DARIEN: Bolamina, small hill, *Duke & Bristan 388* (MO). Near Refugio, 15–21 mi. N of Santa Fé, ca. 30 m., *Duke 10303* (MO). Río San José, *Duke & Bristan 416* (MO). Río Tuirá, between Río Paya and Río Pucro, *Duke & Kirkbride 14054* (F, MO). Teotuma, ca. 100 m., *Duke 10061* (MO). SAN BLAS: Río Chucunaque, 2–10 mi. above Cuna–Darién boundary, *Duke 8567* (MO). VERAGUAS: Isla de Coiba, *Dwyer 2333* (MO, SIU), *2337* (MO).

Picramnia dwyeri superficially resembles the northern South American and Antillean *P. antidesma* Sw., an almost glabrous species with 3-merous flowers. The latter is often ascribed to Mexico and Central America, but collections so identified represent other taxa. *Picramnia dwyeri* is known as *korbugia* and *pakaburwi* by the Bayano Cuna Indians (fide *Duke 14456*). The berry “has bad taste” (fide *Duke & Bristan 388*).

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